

**Notice of Allowability**

Application No.

10/700,542

Examiner

Ling-Siu Choi

Applicant(s)

KUMAMOTO, SHIN-ICHI

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed 09/16/2005.
2. ☒ The allowed claim(s) is/are 10-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/320,428.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### DETAILED ACTION

1. This Office Action is in response to the Amendment filed September 16, 2005. Claims 5-9 were canceled and claims 1-4 and 10-19 are now pending, wherein claims 10-14 of Group II were elected **without traverse**.

#### *Examiner's Amendment*

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CAR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

3. The application has been amended as follows:  
Cancel claims 1-4 and 15-19 without prejudice.

#### *Allowable Subject Matter*

4. Claims 10-14 are allowed.
5. The following is an examiner's statement of reasons for allowance:  
The present claims are allowable over the closest references: Kumamoto et al. (EP 1 138

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701 A1).

A <b>process to prepare a catalyst</b> for $\alpha$ -olefin polymerization, comprising	
A	a solid catalyst component having Ti, Mg, and a halogen as essential components
B	an organoaluminum compound
C	a compound having a <b>-C-O-C-O-C- bond in a closed ring structure</b>
D	a <b>1,3-diether</b> compound

(summary of claim 10)

Kumamoto et al. disclose a process to prepare a catalyst for ethylene polymerization, the process comprising the step of contacting with (i) a solid catalyst component containing at least titanium, magnesium, halogen atoms, and an internal electron donor, (ii) an organoaluminum, and (iii) a heterocyclic compound, wherein the solid catalyst component is obtained by the step of contacting with other (a) a solid catalyst component comprising a magnesium atom, a titanium, and a hydrocarbyloxy group, (b) a halogen compound having a capability of halogenation, and (c) **the internal electron donor which can be a diether** ([0019]; [0054]; [0058]; claims 1 and 3). Kumamoto et al. further disclose that "[P]articularly preferred heterocyclic compounds are 4- to 8- membered compounds having a -C-O-C-O-C- bond " such as 1,3-dioxepane, 1,3-dioxane, 1,3-dioxolan, 2-methyl-1,3-dioxolan, 2,2-dimethyl-1,3-dioxolan, or 4-methyl-1,3-dioxolan ([0014]). However, Kumamoto et al. do not teach or fairly suggest a process comprising a combination of the diether and the compound having a -C-O-C-O-C- bond in a closed ring structure as external donors.

In light of the above discussion, it is evident as to why the present claims are patentable

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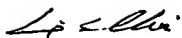
over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on 571-272-1114.



**LING-SUI CHOI  
PRIMARY EXAMINER**

November 22, 2005